REMARKS

In the patent application, claims 1-32 are pending. In the non-final office action, mailed April 3, 2007, claims 1-32 are rejected.

Applicant has amended claims 1-13 and 18-32.

Claim 1 has been amended mainly to move the claim language in the preamble to the characteristic part, and to change "pre-decoding buffering parameter" to "pre-decoder buffering parameter". The support for the amendment can be found on p.9, lines 10-14.

Claims 2-8 and 12 have been amended to change "server" to "streaming server", and "buffering parameters" to "pre-decoding buffering parameters".

Claims 9 and 23 have been amended to define RTSP as Real-Time Streaming Protocol. The support for the amendment can be found on p.2, lines 23-25.

Claims 10, 11, 24 and 25 have been amended to change the claim dependency.

Claim 13 has been amended to move "at least one buffer" from the preamble to the characteristic part.

Claim 18 has been amended to change the word "chosen" to "determined".

Claims 19-22, 26, 29, 30, 31 and 32 have been amended to change "buffering parameters" to "pre-decoding buffering parameters".

Claim 28 has been amended to change the wording of the claim.

No new matter has been introduced.

At section 2 of the office action, claims 1-12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite. In rejecting these claims, the Examiner states that, because the pre-decoding buffering parameters provided to the server is equal to the pre-decoding buffering parameters provided by the server, the client's jitter buffering capabilities cannot be determined based on the difference between the parameters provided to and the parameters provided by the server.

It is respectfully submitted that the Examiner errs in asserting that the pre-decoding buffering parameters provided to the server is equal to the pre-decoding buffering parameters provided by the server. In contrary, the present invention is based

on the premise that the pre-decoding buffering parameters provided <u>to</u> the server (as chosen by the client) may <u>**not**</u> be equal to the pre-decoding buffering parameters provided <u>by</u> the server. According to the present invention, the client <u>chooses</u> the pre-decoder buffering parameters and then provides information indicative of the chosen pre-decoder buffer parameters <u>to</u> the server. Based on the information and the pre-decoder buffering parameters as provided <u>by</u> the server, the server determines the client's jitter buffering capabilities.

As disclosed in the specification, in prior art, the server may recommend looser pre-decoding buffering parameters to the client to ensure that the client will in fact use those looser buffering parameters instead of those actually required for a constant delay channel. However, the client **does not** know that the parameters provided by the server have already been adjusted to include packet transfer delay compensation. Thus, the client may use **even looser** parameters for its buffering needs. As a result, the buffering at the client is over-excessive (p.3, lines 21-30).

In order to reduce the unnecessary physical buffering space for the over-excessive buffering at the client, the client, according to the present invention, transmits an indication of the client's actual buffering parameters to the server. Based on the indication, the server can more realistically estimate the compensation for the packet transfer delay and channel rate variations (p.10, lines 8-15) and determine the recommended pre-decoding buffering parameters. As such, the client's jittering buffering capabilities can be determined based on the difference between the client's actual buffering parameters sent to the server and the server's recommended pre-decoding buffering parameters (p.10, lines 1-4).

For the above reasons, applicant believes that claims 1-12 are well defined. Applicant respectfully requests that the Examiner withdraw the 112 rejection.

At section 3, claims 9-11 and 23-25 are rejected because the acronym RTSP is used. Applicant has amended claims 9 and 23 to define the acronym RTSP.

At section 5, claims 1-, 3-4, 6-8, 12-14, 16, 18-22 and 26-32 are rejected under 35 U.S.C. 102(e) as being anticipated by *Despande* (U.S. Patent No. 7,047,308 B2). The

Examiner states that *Despande* discloses a client-server collaboration method as claimed. In rejecting claim 1, the Examiner considers the client as being the streaming server as well! (see p.3, last line to p.4, line 1, of the office action). The Examiner also alleges that *Despande* discloses providing information indicative of the client's chosen pre-decoder buffering parameters to the server (col.4, lines 15-20) and using the pre-decoder buffering parameters provided by the server (col.4, lines 56-65). The Examiner also states that *Despande* discloses determining the client's chosen pre-decoder buffering parameters at the client side (col.1, lines 50-55)

At col.1, lines 50-55, *Despande* discloses that the amount of buffering done at the client side in a streaming media system is based on mainly on two factors: the available client buffer size and the acceptable delay which the user can tolerate before the media actually starts playing. While the buffer size must be taken into consideration when choosing the pre-decoder buffering parameters, the buffer size and the tolerable delay do not determine
the client's chosen pre-decoding buffering parameters.

At col. 4, lines 15-20, *Despande* discloses that the server 102 polls the clients 106-110 for their respective buffering capacities and each client 106-110 transmits their buffering capacities to the server 102 as to allow the server 102 to determine the first minimum client buffering capacity C1 using the smallest buffering capacity.

The Examiner errs in equating "buffering capacities" to "pre-decoder buffering parameters". As known in the art, pre-decoder buffering parameters include client's buffering delay (p.3, line 10-12).

Thus, *Despande* does not disclose providing information to the streaming server indicative of the client's chosen pre-decoder buffering.

At col. 4, lines 56-65, *Despande* discloses that the server temporarily pauses the supply of the media stream to the clients for a period of time if the new minimum buffering capacity Cnew is less than C1. Cnew is a new minimum buffering determined by the server 102 when clients are added or removed from the network based on the smallest buffering capacity among the clients after the addition or removal. The period of time for pausing is calculated based on the difference between C1 and Cnew divided

by the first birate R1 at which the server 102 supplies the media stream (col. 3, line 64 to col. 4, line 1). The difference between the old and new buffering capacities is used to calculate the pausing time in order to reduce the amount of media stream because one of the newly added clients has a smaller buffering capacity than the earlier minimum buffering capacity. This difference has nothing to do with the client's chosen pre-decoder buffering parameters and the pre-decoder buffering parameters provided to the client by the server. This difference has nothing to do with the jitter buffering capabilities at the client.

In sum, *Despande* is concerned with supplying a packet stream from a server to a plurality of clients in a network, wherein some new clients may be added and some existing clients may be removed. The server determines the network delivery requirements at least based on the smallest buffering capability among the clients in response to the removal or the addition of the clients. The smallest buffering capability is determined based on polling by the server among the existing clients. *Despande* does not disclose that the server determines jitter buffering based on the pre-decoder buffering parameters chosen by the client and the pre-decoder buffering parameters determined by the server when the packet stream is transmitted over a constant delay channel.

For the above reasons, *Despande* fails to anticipate claims 1-, 3-4, 6-8, 12-14, 16, 18-22 and 26-32.

At section 7, claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Despande*, in view of *Graft* (U.S. Patent No. 6,085,221). The Examiner cites *Graf* for disclosing how the server chooses the buffer parameters based on the peak rate and receiver's buffer size.

At section 8, claims 5 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Despande*, in view of *Paul et al.* (U.S. Patent No. 7,185,070, hereafter referred to as *Paul*). The Examiner cites *Paul* for disclosing providing information to the server indicative of the client's changed buffering parameters.

At section 9, claims 15 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Despande*, in view of *Zhu et al.* (U.S. Patent No. 6,085,252, hereafter

referred to as *Zhu*). The Examiner cites *Zhu* for disclosing a pre-decoder buffer and a delay jitter buffer.

It is respectfully submitted that claims 2, 5, 15, 17 and 21 are dependent from claims 1 and 13 and recite features not recited in claims 1 and 13. For reasons regarding claims 1 and 13 above, claims 2, 5, 15, 17 and 21 are also distinguishable over the primary *Despande* reference, and the secondary *Graf, Paul* and *Zhu* references.

CONCLUSION

Claims 1-32 are allowable. Early allowance of all pending claims is earnestly solicited.

Respectfully submitted,

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